

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>P2001, 0122WO</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/EP 02/01506</b>	International filing date (day/month/year) <b>13/02/2002</b>	(Earliest) Priority Date (day/month/year) <b>22/02/2001</b>
Applicant <b>INFINEON TECHNOLOGIES SC300 GMBH &amp; CO. KG</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 6 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

## 4. With regard to the title,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

## 5. With regard to the abstract,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.

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None of the figures.

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP 02/01506**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 1-8, 12-19  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

International Application No

PCT/EP 02/01506

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC 7 G03F7/09

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G03F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, EPO-Internal, INSPEC

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 064 524 A (M. OKA ET AL.) 16 May 2000 (2000-05-16) column 20, line 25 - line 34 claims 13,15-18 ---	1-19
X	EP 0 770 579 A (ASAHI GLASS COMPANY LTD.) 2 May 1997 (1997-05-02) page 2, line 5 - line 13 page 7; example 3 ---	1-13
X	EP 0 744 662 A (JAPAN SYNTHETIC RUBBER CO., LTD.) 27 November 1996 (1996-11-27) page 3, line 17 - line 27 page 8 -page 9 ---	1-9, 12, 14-19
X	US 5 744 293 A (K. OKUMURA ET AL.) 28 April 1998 (1998-04-28) claims ---	1-9, 12, 14-19
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Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

**\* Special categories of cited documents:**

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*A\* document member of the same patent family

Date of the actual completion of the international search

30 July 2002

Date of mailing of the international search report

16/08/2002

Name and mailing address of the ISA

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Dupart, J.-M.

International Application No

PCT/EP 02/01506

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
aus EP X	DATABASE WPI Section Ch, Week 200023 Derwent Publications Ltd., London, GB; Class A89, AN 2000-261403 XP002172189 & JP 2000 066381 A (TOPPAN PRINTING CO LTD), 3 March 2000 (2000-03-03) abstract	1-9
aus EP A	--- US 5 215 839 A (R.C.U. YU) 1 June 1993 (1993-06-01) column 2, line 18 - line 24 column 4, line 3 - line 33	1-14

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 02/01506

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6064524	A	16-05-2000	JP 7287102 A	31-10-1995
			JP 7333404 A	22-12-1995
			US 6340404 B1	22-01-2002
			CA 2142580 A1	16-08-1995
			EP 0667541 A2	16-08-1995
			KR 237255 B1	15-01-2000
			KR 254311 B1	01-05-2000
			US 5909314 A	01-06-1999
EP 0770579	A	02-05-1997	EP 0770579 A1	02-05-1997
			JP 10167727 A	23-06-1998
			US 5897958 A	27-04-1999
EP 0744662	A	27-11-1996	EP 0744662 A2	27-11-1996
			JP 9043839 A	14-02-1997
US 5744293	A	28-04-1998	JP 8241858 A	17-09-1996
JP 2000066381	A	03-03-2000	NONE	
US 5215839	A	01-06-1993	NONE	

## FURTHER INFORMATION CONTINUED FROM PCT/AS/ 210

Continuation of Box I.2

Claims Nos.: 1-8,12-19

(1) Present claims 1-8 and 12-19 relate to an extremely large number of possible antireflective coatings (ARC) because neither the material of the matrix substance nor the material of the nanocrystalline particles are properly defined.

Support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT is to be found, however, for only a very small proportion of the antireflective coatings claimed (see page 4, lines 35-37, and page 5, first paragraph). In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely those parts relating to the antireflective coatings of claim 1 restricted to those mentioned in the description on page 4, lines 35-37, and on page 5, first paragraph.

(2) Present claims 4, 5, 6, 7, 8 and 14-19 relate to antireflective coatings defined by reference to a collection of desirable characteristics or properties:

In the claims the size of the particles, the material of the particles, the concentration of the particles, and the material of the matrix, are chosen corresponding to "a" degree of absorption in claim 6, "a" wavelength in claim 4, "a" viscosity value in claim 7, "an" etch resistance in claim 8, and "a" refractive index of the ARC layer in claims 5, 16, and 17.

None of the above-mentioned characteristics or properties are quantified.

The claims cover all antireflective coatings having these undefined characteristics or properties, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such antireflective coatings (see page 4, lines 35-37, and page 5, first paragraph). In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible.

Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the product by reference to a result to be achieved. Besides, it is impossible to compare the undefined parameters the applicant has chosen to employ with what is set out in the prior art.

Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible.

Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

parts relating to the antireflective coatings of claim 1 restricted to those mentioned in the description on page 4, lines 35-37, and on page 5, first paragraph.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

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